



**ONE MONROE
AEROSPACE**

NO: 927218

CERTIFICATE OF CONFORMITY

BILL TO:
BARMIL, LTD.
ACCTS. PAYABLE
69 GISSIN STREET
P.O.B 4171,
PETACH TIKYA 4922384


SHIP TO:
BARMIL, LTD.
ATTN: ARIK YOCHAI
c/o ALISON TRANSPORT / PAI TRUCKING
145-45 156TH ST
JAMAICA, NY 11434

CUSTOMER PO 260275	SHIP DATE	AIRWAY BILL/TRACKING # 1Z3165E00369388882
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PART NO:	Description	CD	QTY	S/L	
NAS1352-08-8P	SOCKET HD. SCREW Customer Reference:	NE	4700	35	LOT: 1067038 MFR: SOCKET
NAS1352-08-8P REV: 13	SOCKET HD. SCREW Customer Reference:	NE	4700	34	LOT: 1067038 MFR: SOCKET
MS21042L06 REV: 3	SELF LOCKING NUT Customer Reference:	NE	1000	127	LOT: 72856-000 MFR: ESNA
AN3-4 REV: 3	BOLT DRILLED Customer Reference:	NE	253	45	LOT: 35556 MFR: CGI
AN3-4	BOLT DRILLED Customer Reference:	NE	2247	50	LOT: 31380 MFR: AFC
MS24665-153	COTTER PIN S/S Customer Reference:	NE	3200	100	LOT: DSS061024A MFR: WESTERN WIRE
MS51958-64	PAN HEAD SCREW Customer Reference:	NE	137	49	LOT: 72058-01 MFR: CRESCENT
MS51958-64 REV: 3	PAN HEAD SCREW Customer Reference:	NE	2163	45	LOT: 72058-01 MFR: CRESCENT
MS51959-3 REV: 3	SCREW S/S Customer Reference:	NE	2700	21	LOT: 96705 MFR: NEFCO
MS24693-C17 REV: 4	SCREW S/S Customer Reference:	NE	2000	21	LOT: 74746-01 MFR: CRESCENT
AN526C440R6 REV: 6	TRUSS HEAD SCREW Customer Reference:	NE	1200	33	LOT: 63305-03 MFR: CRESCENT
MS14145L4 REV: 2	CASTELLATED NUT Customer Reference:	NE	650	52	LOT: 16277189 MFR: HOWMET

CONDITIONS: NE-NEW NS-NEW SURPLUS OH-OVERHAULED RP-REPAIRED SV-SERVICEABLE COM-COMMERCIAL

We hereby certify that the items that are a part of this Purchase Order have been visually & dimensionally found to conform to all applicable standards, drawings & specifications. The liability of ECAS, LLC is limited to replacement of any item which is rejected because of a defect in material or workmanship if notified within 30 days & liability shall not exceed the invoice value. Such replacement shall constitute satisfaction of all liability.

SIGNED: 
For and on behalf of ECAS, LLC dba MONROE AEROSPACE

ECAS, LLC dba MONROE AEROSPACE
300 NORTH DR STE 100 MELBOURNE, FL 32934 PH: 800.330.3975



Packing Slip & Certification

Order Number: SO60181

Fulfillment Number: IF28436

Terms: Net 30

Customer #: ECALLCFL01

Ordered Date: 11/12/2025

Ordered by: KRYSTAL HADDOCK

Sales Rep: Jamie Gilbert

Customer PO: FL105159

WG Henschen
 WG Henschen
 24908 Avenue Kearny
 Valencia CA 91355
 United States



Ship To
 ECAS, LLC MONROE AEROSPACE (FL)
 ATTN RECEIVING
 300 NORTH DR SUITE 100
 MELBOURNE FL 32934
 United States

Bill To
 ECAS, LLC
 dba. MONROE AEROSPACE
 300 NORTH DR SUITE 100
 MELBOURNE FL 32934
 United States

Date	Ship Via	Ship Acct#
11/12/2025	UPS 3 Day Select®	3165E0

Customer/Order Instructions

Cust Ln	Ln	Item	Ordered	Shipped	B/O'd	UM	Req'd Date
1	1	MS21042L06 Customer PN: MS21042L06 NUT Lot: 1000014366 72856; Qty: 25000;	25,000	25,000	0	EA	11/12/2025

TOTAL PACKAGES: 1
 GROSS WEIGHT IN LBS: 21
 DIMENSIONS: 10x7x7

16150 North Arrowhead Fountains
 Center Drive
 Suite #240A
 Peoria AZ 85382
 United States



CERTIFICATION

PARTS ARE CONFORMING TO THE PURCHASE ORDER, INSPECTION, TEST, QUALITY, AND PERFORMANCE ARE IN ACCORDANCE WITH SPECIFICATIONS, AND DRAWINGS AS APPLICABLE. PARTS WERE NOT SUBJECTED TO CONDITIONS OF EXTREME STRESS, HEAT OR ENVIRONMENT. UNLESS OTHERWISE STATED ON THE FACE OF THE INVOICE, WG HENSCHEN'S LIABILITY EXPRESSLY LIMITED TO REPLACEMENT OR CREDIT FOR THOSE PARTS. MATERIALS MAY NOT BE RETURNED WITHOUT PRIOR AUTHORIZATION FROM WG HENSCHEN (RMA). CLAIMS FOR SHORTAGE OR DEFECTIVE MATERIAL MAY BE MADE WITHIN 30 DAYS FROM RECEIPTS OF GOODS. DISCLAIMER: NO HAZARDOUS SUBSTANCE (LEAD, MERCURY, CADMIUM, RADIUM ETC) WERE USED IN PROCESSING THIS ORDER, EXCEPT FOR THOSE PERMITTED BY CUSTOMER CONTROLLED SPECIFICATIONS. ALL ATTACHED CERTIFICATIONS ARE CERTIFIED TRUE COPIES AND ORIGINALS ARE MAINTAINED ON FILE.

If applicable, These Items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify that no returns will be accepted without WG Henschen Return Material Authorization number (RMA). Only lot traceable material will be accepted for return.

The standard terms and conditions for sales by WG Henschen are accessible via <https://www.wghco.com/wp-content/uploads/2023/12/A-820-002-Buyer-SO-Terms-Conditions-Rev-G.pdf>. These terms and conditions are to be considered an integral part of this order unless WG Henschen and the buyer have mutually agreed otherwise in a document signed by both parties. The governance of this order will be under these terms and conditions, overriding any conditions the buyer may have included with the order. The acceptance of this order implies the buyer's agreement to these terms and conditions. Unless there is explicit mutual agreement in writing signed by both WG Henschen and the buyer, these terms and conditions will take precedence over any other terms, conditions, representations, and understandings, whether verbal or written.



Quality Signature: Carlos Dominguez



SO60181



IF28436

ESNA
811 COUNTRY CLUB ROAD
POCAHONTAS, ARKANSAS 72455
(870) 892-5201

TO: WG HENSCHEN CO
7363 EAST TIERRA BUENA LANE, SUITE 100

DATE: 4/28/2025

SCOTTSDALE, AZ 85260


SUBJECT:	YOUR ORDER NUMBER	PO14086	ITEM NUMBER	1
	ESNA ORDER NUMBER	131288		
	FSCM/ CAGE NUMBER	019L2		
	YOUR PART NUMBER	MS21042L06		
	CERTIFIED AS	MS21042L06 PER NASM21042 REV 3		
	ESNA PART NUMBER	M52LF3324-82		
	QUANTITY	33139		
	PACKING LIST NUMBER	94675		
	SHOP ORDER NUMBER	72858 - 000		

This is to certify that all applicable plating, heat treating, and inspection processing and that all material used in the manufacture of subject parts conform to the specification or drawings received by ESNA and set forth in the subject purchase order; that the parts are of good material and workmanship; and that all necessary records, including chemical and physical where applicable, will be made available for review upon request. The inspection and test reports provided represent the actual attributes of the items furnished on this contract and indicate full compliance with all applicable specification and contract requirements.

This is to certify that the materials supplied against the subject order are free of contamination by presence of mercury.

Very truly yours,

ESNA


DUSTIN SMITH
QUALITY ASSURANCE MANAGER
Brenda Ramsey, Sr. Certs Expert /Level II NDT

The above subject parts were manufactured in the United States of America.

ESNA
611 COUNTRY CLUB ROAD
POCAHONTAS, ARKANSAS 72455

CERTIFICATE OF QUALITY COMPLIANCE

DATE: 4/29/2025

TO: WG HENSCHEN CO
 7363 EAST TIERRA BUENA LANE, SUITE 100

 SCOTTSDALE, AZ 85260

ESNA PART NO. M52LF3324-82 (2 SEPT 97)
 MANUFACTURER'S LOT SIZE 100341 (APPROX. WT. COUNT)
 MANUFACTURED UNDER SHOP ORDER NUMBER 72856 - 000
 ORIGINATED AS SHOP ORDER NUMBER _____
 CUSTOMER PO #: PO14086 PACKING LIST #: 94675
 ESNA ORDER #: 131288 QTY PACKAGED: 33139
 CUSTOMER PART #: MS21042L06

ACCEPTANCE TESTS PER NASM 25027 REV 1

MATERIAL RAW MATERIAL TYPE .157 WIRE 4037 DATE MFG: 8/14/2022
 RAW MATERIAL CONFORMS TO AMS 6308E AS EVIDENCED BY THE ATTACHED MILL CERTIFICATION. ESNA SHOP
 ORDER NO. 72856 - 000 MILL HEAT NO. 10681150 VENDOR WIRETECH

FINISH FINISH TYPE SAE AMS QQ-P-416E TP II CL 2;
 LUBRICANT TYPE EVERLUB 820C DRY FILM LUBE PER AS6272 TYPE I

AXIAL STRENGTH REQUIRED LBS. MINIMUM 1670 ALL SAMPLE PIECES TESTED MEET OR EXCEED
 EXCEEDS LBS. 1670 MINIMUM REQUIREMENTS.
 SAMPLE SIZE 27 PIECES.

WORKMANSHIP CONFORMS DIMENSIONALLY TO MS21042L06 PER NASM21042 REV 3 STANDARD.
 BEARING SURFACE SQUARENESS AS SPECIFIED PER NASM 25027 REV 1

DISCONTINUITIES WITHIN LIMITS PER NASM 25027 REV 1 AND MIL-STD-271D/ACN 1/ AND REV E/ NOTICE 2/ AND REV F/ NOTICE 1.

MT PER SPEC 718 R	SAMPLE SIZE(MT - PCS):	32
	ACCEPTED(PCS):	32
PT PER SPEC 731	SAMPLE SIZE(PT - PCS):	0
	ACCEPTED(PCS):	N/A

This is to certify that all applicable plating, heat treating, and inspection processing and that all material used in the manufacture of subject parts conform to the specification or drawings received by ESNA and set forth in the subject purchase order; that the parts are of good material and workmanship; and that all necessary records, including chemical and physical where applicable, will be made available for review upon request. The inspection and test reports provided represent the actual attributes of the items furnished on this contract and indicate full compliance with all applicable specification and contract requirements.

This is to certify that the materials supplied against the subject order are free of contamination by presence of mercury.

The recording of false, fictitious or fraudulent statements or entries on this document may be punishable as a felony under Federal Statute.
 This document shall not be reproduced in full without the written approval of the laboratory.

SIGNATURE Brenda Ramsey
 DUSTIN SMITH, QUALITY ASSURANCE MANAGER
 Brenda Ramsey, Sr. Certs Expert /Level II NDT

SHOP ORDER # 72858 - 000

DUSTIN SMITH, QUALITY ASSURANCE MANAGER
 Brenda Ramsey, Sr. Certs Expert / Level II NDT

SIGNATURE *Brenda Ramsey*

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SAMPLE #	1ST ON	1ST BREAK	7TH ON	7TH BREAK	15TH ON	15TH BREAK
1	05.0	03.0	03.0	02.0	03.0	01.5
2	06.5	05.0	05.0	04.0	04.5	03.0
3	06.5	04.0	04.5	03.0	03.5	02.5
4	06.0	04.0	04.5	03.5	03.5	02.5
5	08.0	05.0	08.5	03.5	05.5	02.5
6	05.0	03.5	03.5	02.0	04.0	02.0
7	10.0	07.0	07.5	05.0	07.0	05.0
8	05.5	04.0	05.0	03.5	05.0	03.0
9	06.5	05.5	05.0	03.5	05.0	03.0
10	07.0	05.0	07.0	05.0	05.0	03.5
11	07.5	06.0	05.0	04.0	04.5	03.5
12	07.5	06.0	05.5	04.0	04.5	03.5
13	03.5	02.5	02.5	01.5	04.0	02.0
14	08.5	05.0	08.5	05.0	05.0	03.5
15	05.0	04.0	04.0	03.0	04.0	02.5
16	07.0	04.0	04.0	03.0	04.5	03.0
17	08.0	05.0	08.0	03.5	05.0	04.0
18	09.0	07.0	08.0	04.0	04.5	03.0
19	03.0	04.0	04.5	03.0	05.0	04.0
20	07.5	05.5	07.0	05.5	05.0	04.0
21	09.5	08.0	08.0	08.0	07.5	05.0
22	09.5	08.0	08.5	08.5	04.5	03.5
23	08.0	05.0	05.0	04.0	05.0	03.0
24	08.0	05.0	03.5	03.0	04.0	03.0
25	05.5	04.0	04.0	04.0	04.5	02.5
26	05.5	04.0	03.0	02.0	04.5	03.5
27	05.0	02.5	02.5	02.0	03.5	03.0

REQUIREMENT: 1ST, 7TH, 15TH, INSTALLATION MAXIMUM TORQUE

Sample Size & Requirements per Spec
 NASM 25027 REV 1
 27 Samples

10
 1.0
 15TH BREAK

CUSTOMER NAME WG HENSCHEN CO
 7363 EAST TERRA BUENA LANE, SUITE 100
 SCOTTSDALE, AZ 85260

CUSTOMER PO # PO14088
 ITEM NUMBER 056082
 QUANTITY 33139
 THREAD SIZE .1380-32
 HEX
 LINE NO 1
 MS NUMBER - REF: MS21042L06 PER NASM21042 REV 3

ESNA ORDER # 131288
 PART # M52LF3324-62
 SHOP ORDER # 72858 - 000
 LOT QUANTITY 100341
 PARENT SHOP ORDER # 100341

CUSTOMER DUE DATE 4/29/2025

ESNA
 POCAHONTAS, ARKANSAS 72455
 LOCKING TORQUE TEST



2500 W. Main
 Jacksonville, AR 72076
 Phone: 501-982-3148 Fax: 501-982-3140

Customer No: 1136

ESNA PRODUCTS
 611 COUNTRY CLUB ROAD
 POCAHONTAS, AR 72455

Shipped To: ESNA PRODUCTS
 611 COUNTRY CLUB ROAD
 POCAHONTAS, AR 72455

Certification for Order
 431414
Certified On
 March 19, 2025

Purchase Order	Order Date	Cust Shipper#	Heat Code	Material	Lot Number	Orig	Container
57348	08-Mar-2025			4037	72856		2 BINS

HEAT TREAT

Part Number/Description	Quantity	Weight
M52LP3324-82 (058082) H/T PER SPEC 510	102578	80.0

Requirements & Test Results

Requirement	Test	Tested	Test Results	Test Performed	Test Results	Qty
SRFS HDS - 43-46 RC	3	3	43-45 RC	SRFS HDS	43	
				SRFS HDS	45	

Special Notes:
 15N 82/83 = RC 43/45

Certification for Order#: 431414


 Louls Nettles, Quality Control

Date Signed: 19 March 2025
 Coleman Heat Treating Inc.
 2500 W. Main
 Jacksonville, AR 72076

Fischerscope® XRAY XDAL 237



-Copper-

-Nickel-

-Cadmium-

-Zinc-

-Tin-

Commercial Plating
9100 Riverview Drive * St. Louis, Missouri * 63137
Phone: (314) 867-4212 * www.commercialplating.com * FAX: (314) 867-4523

COMMERCIAL PLATING CERTIFICATION & TEST RESULTS

This is to certify that the order detailed below was plated to comply with the agreed upon requirements of the requested specification.

Date: 4/9/2025
Part No.: M52LF3324-6Z
Order No: 57612

Customer: ESNA
Part Description: # 62 NUT
Lot No: 72856

Net Weight: 77
Plated to Gauge: N

Specification: SAE AMS, QQ-P-416E, TYPE II, CLASS 2

Requirements: .0003-.0008 QAD, 23 HOUR BAKE (375 +/- 25F) AND BLACK CHROMATE

Signature:


R.S. Wagner, Quality Manager

Results: Cd/Fe

n= 1 Cd 1= 372.0 µ"
n= 2 Cd 1= 324.3 µ"
n= 3 Cd 1= 438.2 µ"
n= 4 Cd 1= 343.6 µ"
n= 5 Cd 1= 458.3 µ"
n= 6 Cd 1= 604.2 µ"
n= 7 Cd 1= 405.9 µ"
n= 8 Cd 1= 436.4 µ"
n= 9 Cd 1= 380.2 µ"
n= 10 Cd 1= 346.4 µ"
n= 11 Cd 1= 340.9 µ"
n= 12 Cd 1= 541.9 µ"
n= 13 Cd 1= 370.2 µ"
n= 14 Cd 1= 443.3 µ"
n= 15 Cd 1= 373.1 µ"
n= 16 Cd 1= 376.6 µ"
n= 17 Cd 1= 381.4 µ"
n= 18 Cd 1= 489.0 µ"
n= 19 Cd 1= 477.7 µ"
n= 20 Cd 1= 383.5 µ"

COMMERCIAL PLATING SAE AMS QQ-P-416E PROCESSING

THIS IS TO CERTIFY THAT THE ORDER DESCRIBED BELOW WAS BAKED IN AN OVEN CERTIFIED TO AND FOLLOWING THE REQUIREMENTS OF SAE AMS 416E.

DATE: 4/10/2025

CUSTOMER: ESNA

CPC WORK ORDER NUMBER: 1602

PART NUMBER: M52LF3324-62 ORDER NUMBER: 57612 LOT NUMBER: 72856

TOTAL WEIGHT: 77 LBS

PIECES: 110139

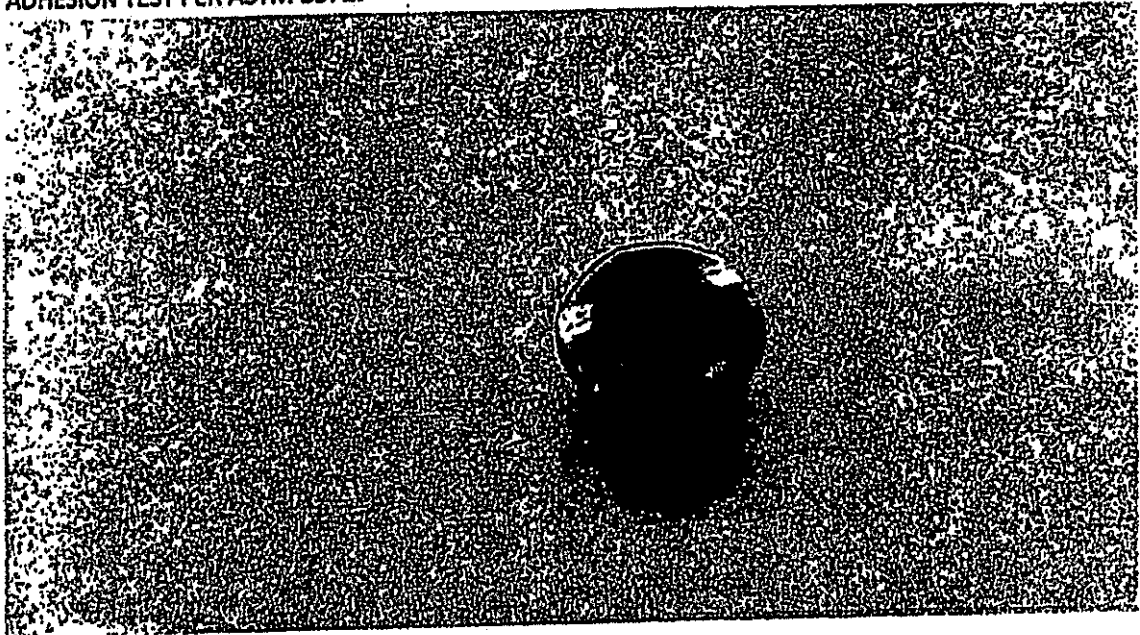
BAKING PER SAE AMS 2750D:

FIRST OUT OF LINE: 2:20 PM 4/03/2025

IN OVEN: 4:15 PM 4/03/2025

OUT OF OVEN: 4:15 PM 4/04/2025

ADHESION TEST PER ASTM B571:



AUTHORIZED SIGNATURE:
TITLE: QUALITY CONTROL MANAGER

INDUSTRIAL METAL FINISHING

ISO 9001:2008

Shipping: 107 N. Lear Road Street Walnut Ridge AR, 72476

Mailing: P.O. Box 326 Pocahontas AR 72455

Phone (870) 886-7531 Brian's cell:(870)378-1977

Krystal's cell(870)378-1976

Fax (870) 886-9546

bnlswonger@indmetalfinishings.com

Certificate of Compliance

04/23/2025

ESNA

PO# 57815

Job# 72856

Part# M52LF3324-62

Quantity: 99559

Base Material: 0.157 4037 ALLOY WIRE

Specification requirement: EVERLUBE 620C AS5272 TYPE I

Finishing: Dip & spin with Everlube 620C
Drylube batch# PC-4607

Sincerely,



Brian Niswonger

Brian Niswonger
President, IMF



WireTech, Inc.

8440 E. Canning Street
Los Angeles, CA 90040
Phone (323) 722-4833
Fax (323) 721-2738

SOLD TO:

ESNA
611 Country Club Road
Pocahontas, AR 72458
USA

RMIR # 81363
P.O. # 41708
SIZE: 1.57 4037 Wire
HEAT# 10661150

WORK ORDER
157893

CERTIFICATION

HEAT NO.
0010802180
SALES ORDER / RLS
888905 / 1
ISO 9001-2008 REGISTERED



MECHANICAL TESTING
CERT # 911.01



CERT# 911.01

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	CARRIERS	LADING NO	SHIPMENT DATE			
41700-00	042007016Z	422 Lbs	1	00153341	06/14/2022			
SPECIFICATION: M054037-101570A 4037, AC, SKPG, CHG WIRE, SEAM & DECARB FREE, SAIP Zinc Phosphate, Lime & Stearate Coating. Size: 0.186/0.158 Specifications: AMS 2901K, AMS 63005, 1042G								
CERTIFICATION REQUIREMENTS								
Chemical Properties								
C	Si	Mn	P	S	Cu	Ni	Cr	Mo
.37	.27	.75	.008	.007	.08	.05	.16	.20
Physical Properties								
Grain Size	Jominy 1	Jominy 2	Inclusions Macro	Cleanliness	Mill Source			
6	J1-S5	J5-S4	S2-R1-C2	GOOD	F&S=0	Charter		
Country of Origin USA - DFAR Compliant								
Mechanical Properties								
TEST	UNITS	RESULTS						
Tensile Strength	KSI	76.0						
Yield Strength	KSI	63.6						
% Elongation	%	22.5						
% Reduction of Area	%	81.2						
Decarb (Total)	In	0.00						
Rockwell Hardness B Scale	HRC (s)	81						

RECEIVED
JUN 21 2022

Manufacture covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 15 days after receipt of material. Our inspection facility (or any claim processor) upon defective merchandise is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Materials not to specification or size cannot be returned for credit and request for consideration of such orders will not be considered if manufacturer has been contacted. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. The recording of false, fictitious or fraudulent statements or entries on this document may be penalized as a felony under Federal statutes including Federal Tax Title 18, Chapter 47.

REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.

WireTech, Inc. metallurgical laboratory is accredited in the following tests: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metallographic mount preparation per ASTM E 3, decarburization depth per ASTM E 1077, P2202, decarburization performed as per P2202. The reported Chemical and Physical Properties are MPa Secure results. Transcribed from mill certificate. P2202 (IV) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRC and HRC results are conversions from ASTM A 370 tables 1 and 2. All test results not covered by our current AQLA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not specified are not conducted by AQLA or covered by WireTech, Inc. AQLA accreditation.

TEST RESULTS RELATE ONLY TO THE ITEMS TESTED.
LATEST REVISIONS OF ASTM

DFAR Material per Clauses 252.225-7014 ACT. 1, 252.226-7009, & 225.003(b)
All Statements of conformity are based on simple acceptance
page 1 of 1

Material is free of mercury, radium, or alpha contamination.
Erick Estrada
Quality Manager
08/14/2022
DATE



CHARTER STEEL

A Division of
Churser Manufacturing Company, Inc.

Melted in USA Manufactured in USA

EMAIL

1658 Cold Springs Road
Saukville, Wisconsin 53000
(262) 269-2400
1-800-497-8789
Fax (262) 269-2670

CHARTER STEEL TEST REPORT

Wiretech Incorporated
6440 East Carling Street
Los Angeles, CA-90040
Kind Attn :Curt To>Contact

Cust P.O.	8348-1
Customer Part #	4097C1A070-C
Charter Sales Order	70088819
Heat #	42310881A50
Ship Lot #	4845161
Grade	4097 R SK FG AQ 9/32 RND COIL
Process	HRSA
Finish Size	8/32
Ship date	21-JUL-20

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and that it satisfies these requirements. The recording of false, fictitious and fraudulent statements or entries on this document may be punishable as a felony under federal statute.

Test results of Heat Lot # 42310881A50

Lab Code:7388	C	MN	P	S	SI	NJ	CR	MO	CU	SN	V
CHEM	.37	.78	.008	.007	.270	.65	.18	.20	.08	.098	.001
%Wt	AL	N	B	TI	NB						
	.024	.0070	.0001	.002	.001						

JOMINY(ERC)	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J12
	65	64	60	41	34	30	28	27	28	25	22
	J14	J16	J18								
	21	21	20								

JOMINY SAMPLE TYPE ENGLISH=C
MACRO EICH RA

MACRO EICH RANDOM=1

MACRO EICH CENTER=1

AMS 2301 FREQUENCY AVERAGE=.60
AMS 2301 SEVERITY AVERAGE=.00
GRAIN SIZE LAB=0358-01

MIN. GRAIN SIZE=8

AMS 2303 FREQUENCY INDIVIDUAL=.60
AMS 2303 SEVERITY INDIVIDUAL=.60
MAX. GRAIN SIZE=8

Test results of Rolling Lot # 1286584

REDUCTION RATIO=480:1

TENSILE (Kgf)	# of Tests	Min Value	Max Value	Mean Value	TENSILE LAB = 0350-07
REDUCTION OF AREA (%)	1	75.8	75.8	75.8	RA LAB = 0350-07
NUM DECARB=1		FREE FERRITE DECARB (inch)=.000	FREE FERR & PARTIAL DECARB (inch)=.004		CP SPHERO % LAB=0358-07
NUM SPHERO=1		SPHERODIZATION (%)=85.0			

Specifications: Manufactured per Charter Steel Quality Manual Rev Date 05/12/17.
Charter Steel certifies this product is indistinguishable from background radiation levels by having process radiation detectors in place to measure for the presence of radiation within our process & products.
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:
Customer Document = AMS 8300G / AMS 2301K / COP-30103 Revision = Dated =

Additional Comments:

Mail Source:
Charter Steel
Saukville, WI, USA

Trip: 1437854



Testing Laboratory
Page 1 of 2

This MTR supersedes all previously dated MTRs for this order

Jarica Bernard
Jarica Bernard Division Mgr. of Quality Assurance
jbernard1@chartersteel.com
Printed Date : 07/21/2020

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States meeting DFARS compliance, LEEDS compliance, REACH compliance, ROHS-WEEE compliance, and Conflict Materials Restrictions.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory	Address
0358-01	7388	CBSM Charter Steel Melting Division	1658 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSSR Charter Steel Rolling	1658 Cold Springs Road, Saukville, WI 53080
0358-07	8171	CSSP Charter Steel Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	CSFP Charter Steel Ohio Processing Division	6255 US Highway 23, Rising Sun, OH 43457
0358-04	125544	CSCM/CSCR Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
*	*	Subcontracted test performed by laboratory not in Charter Steel System	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Specifications	CBSM	CSSR/ CSSP	CSFP	CSCM/ CSCR
Chemistry Analysis	ASTM E416; ASTM E1019	X			X
Macroetch	ASTM E381	X			X
Hardenability (Jominy)	ASTM A265; SAE J406; JIS G0561	X			X
Grain Size	ASTM E112	X	X	X	X
Tensile Test	ASTM E8; ASTM A370		X	X	X
Rockwell Hardness	ASTM E18; ASTM A370	X	X	X	X
Microstructure (spheroidization)	ASTM A892		X	X	
Inclusion Content (Methods A, E)	ASTM E45		X		X
Decarburization	ASTM E1077		X	X	X

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/21. All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
 - It may be distributed only to their customers
 - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



Fischerscope® XRAY XDAL 237



-Copper-

-Nickel-

-Cadmium-

-Zinc-

-Tin-

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COMMERCIAL PLATING CERTIFICATION & TEST RESULTS

This is to certify that the order detailed below was plated to comply with the agreed upon requirements of the requested specification.

Date: 4/9/2025
Part No.: M52LF3324-82
Order No: 57812

Customer: ESNA
Part Description: # 62 NUT
Lot No: 72858

Net Weight: 77
Plated to Gauge: N

Specification: SAE AMS, QQ-P-416E, TYPE II, CLASS 2

Requirements: .0003-.0008 QAD, 23 HOUR BAKE (375 +/- 25F) AND BLACK CHROMATE

Signature:


R.S. Wagner, Quality Manager

Results: Cd/Fe

n= 1 Cd 1 = 372.0 µ"
n= 2 Cd 1 = 324.3 µ"
n= 3 Cd 1 = 438.2 µ"
n= 4 Cd 1 = 343.6 µ"
n= 5 Cd 1 = 458.3 µ"
n= 6 Cd 1 = 504.2 µ"
n= 7 Cd 1 = 405.9 µ"
n= 8 Cd 1 = 436.4 µ"
n= 9 Cd 1 = 380.2 µ"
n= 10 Cd 1 = 346.4 µ"
n= 11 Cd 1 = 340.9 µ"
n= 12 Cd 1 = 541.9 µ"
n= 13 Cd 1 = 370.2 µ"
n= 14 Cd 1 = 443.3 µ"
n= 15 Cd 1 = 373.1 µ"
n= 16 Cd 1 = 378.6 µ"
n= 17 Cd 1 = 381.4 µ"
n= 18 Cd 1 = 489.0 µ"
n= 19 Cd 1 = 477.7 µ"
n= 20 Cd 1 = 383.5 µ"